

**SECUENCIAL CURRICULAR**

**Primer Año**

Primer Semestre				Segundo Semestre			
Curso	Créditos	Aprobado	En curso	Curso	Créditos	Aprobado	En curso
ENGS 152*	3			CHEM 203+	4		
HUGS 101	3			ENGS 153	3		
MATH 152+*	4			HUGS 102	3		
SPGS 152*	3			MATH 221+	4		
SCGS 200	3			SPGS 250	3		
<b>Total</b>	<b>16</b>			<b>Total</b>	<b>17</b>		

**Segundo Año**

Primer Semestre				Segundo Semestre			
Curso	Créditos	Aprobado	En curso	Curso	Créditos	Aprobado	En curso
ENGI 122	3			ENGI 223	3		
MATH 222+	4			MATH 223	4		
PHSC 215+	4			MATH 395	3		
SOGS 201	3			PHSC 216+	4		
INGS 201	3			SOGS 202	3		
<b>Total</b>	<b>17</b>			<b>Total</b>	<b>17</b>		

**Tercer Año**

Primer Semestre				Segundo Semestre			
Curso	Créditos	Aprobado	En curso	Curso	Créditos	Aprobado	En curso
ELEN 301	3			ELEN 311	3		
ELEN 302	1			ELEN 330	3		
ELEN 312	3			ELEN 332	1		
ELEN 313	1			ELEN 370	3		
ELEN 360	3			HIGS 201	3		
ENGI 398	3			Electiva dirigida I	3		
<b>Total</b>	<b>14</b>			<b>Total</b>	<b>16</b>		

**Cuarto Año**

Primer Semestre				Segundo Semestre			
Curso	Créditos	Aprobado	En curso	Curso	Créditos	Aprobado	En curso
ELEN 415	3			ELEN 417	1		
ELEN 422	3			ELEN 421	1		
ELEN 431	3			ELEN 474	3		
ELEN 433	1			ELEN 480	3		
ELEN 442	3			ELEN 492	3		
ELEN 447	1			Electiva dirigida II	3		
ELEN 491	3			Electiva dirigida III	3		
<b>Total</b>	<b>17</b>			<b>Total</b>	<b>17</b>		

**Notas importantes:**

- \*Todo estudiante será matriculado de acuerdo a los resultados de la prueba de ubicación o resultados del *College Board*.
- + Curso con laboratorio.
- Engineering in mathematics starts at Calculus level, and competencies in science require an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics (ABET's Student Outcome 1). Also, they need to be able to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions (ABET's Student Outcome 6). These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
- New students without previous university experience are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Developmental courses to develop academic skills for students entering with some deficiency: MATH 121 Intermediate Algebra (4 credits) and MATH 151 Pre-Calculus (4 credits).
- Subject to change.

**CONTENIDO CURRICULAR**

**Componente de Educación General - 37 créditos**

Cursos	Créditos	Título	Prerrequisito
ENGS 152*	3	Fundamentos de comunicación oral, lectura y redacción I	
ENGS 153	3	Fundamentos de comunicación oral, lectura y redacción II	ENGS 152*
HIGS 201	3	Puerto Rico historia y cultura	
HUGS 101	3	Cultura mundial I	
HUGS 102	3	Cultura mundial II	HUGS 101
INGS 201	3	Introducción a las destrezas de información, investigación y redacción	
SOGS 201	3	El ser humano y la conciencia social	
SOGS 202	3	Estado-gobierno y el ser humano	SOGS 201
SPGS 152*	3	Fundamentos de lectura y escritura	
SPGS 250	3	Técnicas de escritura	SPGS 152
SCGS 200	3	Ciencias, tecnología y sociedad	
MATH 152+*	4	Pre-cálculo II	

**Componente Medular - 36 créditos**

Cursos	Créditos	Título	Prerrequisito
CHEM 203+	4	General Chemistry I	MATH 151+ or higher
ENGI 122	3	Introduction to Computer Programming	MATH 152+
ENGI 223	3	Intermediate Programming	ENGI 122/MATH 221+
ENGI 398	3	Engineering Mathematics	MATH 222+/ENGI 122
MATH 221+	4	Calculus I	MATH 152+
MATH 222+	4	Calculus II	MATH 221+
MATH 223	4	Calculus III	MATH 222+
MATH 395	3	Differential Equations	MATH 222+
PHSC 215+	4	Physics for Engineering I	MATH 221+
PHSC 216+	4	Physics for Engineering II	PHSC 215+

**Componente de Concentración - 49 créditos**

Cursos	Créditos	Título	Prerrequisito
ELEN 301	3	Electrical Networks I	PHSC 215+
ELEN 302	1	Electrical Networks I Laboratory	PHSC 215+
ELEN 311	3	Electrical Networks II	ELEN 301, ELEN 302L, MATH 395
ELEN 312	3	Digital Logic Design I	ELEN 301, ENGI 122
ELEN 313	1	Digital Logic Design I Laboratory	ELEN 302, ENGI 122
ELEN 330	3	Electronics I	ELEN 301, ELEN 302L
ELEN 332	1	Electronics I Laboratory	ELEN 301
ELEN 360	3	Random Signals and Systems	MATH 222+, ELEN 301
ELEN 370	3	Electromagnetics	ELEN 301, PHSC 216+, MATH 223
ELEN 415	3	Signals, Systems, and Control	ELEN 301, MATH 395, ENGI 398
ELEN 417	1	Systems Laboratory	ELEN 415
ELEN 421	1	Electromechanical Energy Conversion Laboratory	ELEN 302L
ELEN 422	3	Electrical Machines	ELEN 311
ELEN 431	3	Electronics II	ELEN 330
ELEN 433	1	Electronics II Laboratory	ELEN 332L
ELEN 442	3	Microprocessors I	ELEN 312
ELEN 447	1	Microprocessors Laboratory	ELEN 312

**Componente de Concentración - 49 créditos**

Cursos	Créditos	Título	Prerrequisito
ELEN 474	3	Communication Systems I	ELEN 360, ELEN 415
ELEN 480	3	Power System Analysis I	ELEN 311
ELEN 491	3	Electrical Engineering Design Concepts	ELEN 311, ELEN 312, ELEN 330
ELEN 492	3	Major Design Experience	ELEN 422, ELEN 431, ELEN 442, ELEN 491/Last semester status

**Electivas Dirigidas - 9 créditos**

Cursos	Créditos	Título	Prerrequisito
COMP xxx or CPEN xxx	3	Any COMP or CPEN course from the BS in Computer Engineering	As required by the Computer Engineering Program
ECEN 400	3	Survey of Electrical and Computer Engineering Topics	Next to last semester status
ELEN 430	3	Digital Electronics	ELEN 330
ELEN 434	3	Instrumentation	ELEN 431, ELEN 433
ELEN 436	3	Power Electronics	ELEN 330
ELEN 441	3	Digital Logic Design II	ELEN 312, ELEN 330
ELEN 443	3	Microprocessors II	ELEN 442
ELEN 460	3	Digital Signal Processing	ELEN 415
ELEN 472	3	Antennas and Transmission Lines	ELEN 370
ELEN 475	3	Communication Systems II	ELEN 474
ELEN 478	3	RF Design	ELEN 431, ELEN 474
ELEN 481	3	Power System Analysis II	ELEN 480
ELEN 484	3	Power Transmission and Distribution	ELEN 480
ELEN 488	3	Power System Reliability	ELEN 480
ELEN 497	3	Special Topics	ECE Head's permission
ELEN 498	3	Undergraduate Research I	ECE Head's permission
ELEN 499	3	Undergraduate Research II	ELEN 498, ECE Head's permission
ENGY 103	1	Electrical Energy: Basic Concepts	
ENGY 203	1	Fundamentals of Electrical Energy Systems	ENGY 103, Co-req.
ENGY 303	1	Energy and Electrical Power Systems	ENGY 203, Co-req.
ELEN 502	3	Advanced Linear Systems	ELEN 415 or instructor consent
ELEN 503	3	Solid State Electronics	ELEN 431 or instructor consent
ELEN 505	3	Probability and Random Processes	ELEN 360 or instructor consent
ELEN 510	3	Advanced Power System Analysis	ELEN 480 or instructor consent
ELEN 511	3	Power System Dynamics and Control	ELEN 480 or instructor consent
ELEN 520	3	Digital Control Systems	ELEN 415 or instructor consent
ELEN 550	3	Digital Filters	ELEN 415 or instructor consent
CPEN 502	3	Advance Analysis & Design of Algorithms	COMP 315 or instructor consent
CPEN 503	3	Computer and Network Security	CPEN 481 or instructor consent
CPEN 504	3	Advanced Computer Architectures	CPEN 444 or instructor consent
CPEN 505	3	Database Management Systems	CPEN 455 or instructor consent
CPEN 511	3	Distributed Systems	CPEN 444, CPEN 452 or instructor's consent
CPEN 520	3	Numerical Optimization	COMP 411 or instructor consent
CPEN 550	3	Operating Systems Programming	CPEN 452 or instructor consent

**CONTENIDO CURRICULAR**

**Electivas Dirigidas - 9 créditos**

Cursos	Créditos	Título	Prerrequisito
CPEN 552	3	Computer Graphics	ENGI 223 or instructor consent
CPEN 640	3	Embedded Systems	ELEN 442 or instructor consent
<b>Non-Departmental and Non-Engineering Electives</b>			
ENGI 210	3	Engineering Economy	Co-req. MATH 221
ENR 360	3	Entrepreneurship	Dean's permission
ENR 401	3	Identification and Evaluation of Entrepreneurial Opportunities	Dean's permission
IMEN 341	3	Accounting and Finance for Engineers	Co-req. MATH 221
IMEN 406	3	Operations Research	MATH 350 or IME Head's permission
TCOM 503	3	Introduction to TCP/IP	
TCOM 513	3	IT Project Management	
TCOM 521	3	Networking Fundamentals	
<b>Cybersecurity Option (select a minimum of 9 credits from this list if pursuing this option; select all courses to earn a Certificate in Cybersecurity)</b>			
CYBR 501	3	Network Security I	Fourth year status
CYBR 502	3	Computer Security I	Fourth year status
CYBR 521*	3	Network Security II	CYBR 501
CYBR 522*	3	Computer Security II	CYBR 502
CYBR 600	3	Cyber Forensics	CYBR 502
<i>*If pursuing the Certificate in Cybersecurity, CYBR 521 and CYBR 522 can only be taken after obtaining a BS degree</i>			
<b>Quality Assurance and Experimental Design Option (Select a minimum of 9 credits from this list if pursuing this option; select all courses to earn a minor)</b>			
IMEN 205*	3	Principles of Engineering Management	MATH 152
IMEN 395	3	Inferential Statistics for Engineers	IMEN 390 or ELEN 360
IMEN 402	3	Work Measurement	IMEN 390 or ELEN 360
IMEN 405	3	Statistical Quality Control	IMEN 390, IMEN 395 Co-req.
IMEN 416	3	Design of Industrial Experiments	IMEN 395
<i>*Accepted only if upgrading to a minor</i>			
<b>Engineering Management Option (select a minimum of 9 credits from this list if pursuing this option. These courses count toward the MS degree in Engineering Management)</b>			
IMEN 510	3	Engineering Management	Fourth year status
IMEN 551*	3	Advanced Engineering Project Management*	Fourth year status
IMEN 610	3	Statistics for Decision Modeling	Fourth year status
IMEN 620	3	Advanced Enterprise Continuous Improvement	Fourth year status
IMEN 630	3	Supply Chain Management for Engineers	Fourth year status
IMEN 635	3	Logistics Methods and Strategies	Fourth year status
IMEN 640	3	Design and Operation of Logistics Networks	IMEN 635
IMEN 645	3	Analytics for Decision Making	IMEN 610
<i>*TCOM 513 information Technology Project Management may be used as a substitute for IMEN 551</i>			
<b>Entrepreneurship and Innovation Minor (including ELEN 492, select from the list below until a minimum of 12 credits is completed)</b>			
INNO 300	3	Sustainable Innovation or ENR 360	Third year status
INNO 303	3	Product Development, Prototyping and Idea Validation or ENR 401	INNO 300
INNO 400	0	Startup Internship	School's permission
MANA 204	3	Business Law or IMEN 341	
<i>*Students pursuing the minor in Entrepreneurship and Innovation must take at least one course of the minor sequence outside the School of Engineering as an elective course</i>			

**EVALUACIÓN ACADÉMICA PRELIMINAR DISCUTIDA CON EL ESTUDIANTE. LA MISMA PUEDE ESTAR SUJETO A CAMBIOS.**

Total de créditos:

\_\_\_\_\_ Aprobados  
\_\_\_\_\_ Por aprobar

Firma del estudiante: \_\_\_\_\_

Fecha: \_\_\_\_\_

Firma del Consejero Académico: \_\_\_\_\_

Fecha: \_\_\_\_\_